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Erratum

Mann Iteration Converges Faster than Ishikawa Iteration for the Class of Zamfirescu Operators

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The aim of this erratum is to make necessary corrections in the proof of Theorem 2.1 of Babu and Prasad (2006).

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The paper by Babu and Prasad [1] contains some mistakes in the proof of Theorem 2.1. In this erratum, we make the necessary corrections.

We follow the same notation as in [1].

In the statement of Theorem 2.1, we assume that $x_0 = y_0 \in K$.

Beginning with (2.1) and applying the technique as in the proof of Theorem 2.1 in [1], we can show that

$$\|x_{n+1} - p\| \leq a_n \|x_0 - p\|, \quad (1)$$

where $a_n = \prod_{k=0}^n [1 - \alpha_k(1 - \delta)]$, $n = 0, 1, 2, \dots$; and also we can show that

$$\|y_{n+1} - p\| \leq b_n \|y_0 - p\|, \quad (2)$$

where $b_n = \prod_{k=0}^n [1 - \alpha_k(1 - \delta)^2]$, $n = 0, 1, 2, \dots$.

We observe that

$$\frac{1 - \alpha_k(1 - \delta)}{1 - \alpha_k(1 - \delta)^2} \leq 1 - \alpha_k\delta(1 - \delta), \quad k = 0, 1, 2, \dots, \quad (3)$$

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so that

$$\frac{a_n}{b_n} \leq \prod_{k=0}^n [1 - \alpha_k \delta (1 - \delta)], \quad n = 0, 1, 2, \dots \quad (4)$$

Thus, $\lim_{n \rightarrow \infty} (a_n/b_n) = 0$.

Note that $a_n \rightarrow 0$ and $b_n \rightarrow 0$ as $n \rightarrow \infty$.

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